

PATENT ABSTRACTS OF JAPAN

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(71)Applicant : MATSUSHITA ELECTRON CORP

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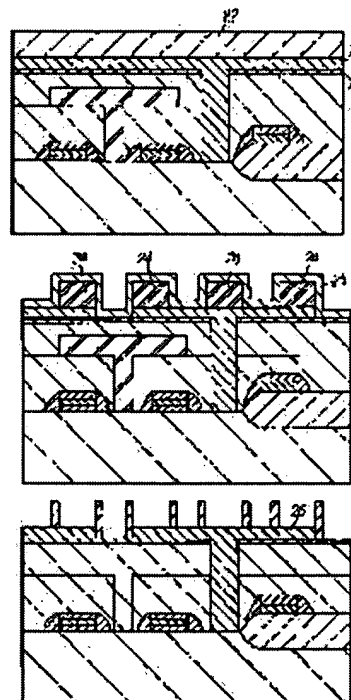
(72)Inventor : UCHIDA HIROBUMI

(54) MANUFACTURE OF SEMICONDUCTOR MEMORY

(57)Abstract:

PURPOSE: To make the capacity of memory cells larger and to make high integration possible, by making the surfaces of storage electrodes have fine grooves and increasing the area.

CONSTITUTION: After an insulating film and a silicon nitride film 20 are grown on a semiconductor substrate of one conductivity type, a polysilicon film 21 with a contact window is grown. After that, a silicon oxide film 22 is grown, and polysilicon electrodes are formed by patterning. Next, a silicon oxide film pattern 24 is formed in the silicon oxide film, and a polysilicon film 25 is formed. After that, etching-back is performed, and storage electrodes 26 isolated from each other are formed. Subsequently, the oxide film masks 24 are removed. Consequently, it becomes possible to form grooves thinner than the resolution limit of lithography, and increase the surface area. Following this, a capacitor insulating film, a plate electrode, BPSG film aluminum wiring, and a surface protecting film are formed in the order.



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